

CLAIMS

1. A distributor device for use in an aluminium casting operation to direct the flow of molten aluminium into a mould, the distributor device including a rigid, substantially bowl-shaped receptacle (2) of a refractory material having a base member (4) and a peripheral wall (6) that extends upwards from the base member,

5 said receptacle having an inlet opening (8) towards the upper end thereof and at least one outlet opening (14) towards the base thereof, the device being constructed and arranged such that, in use, molten aluminium poured into the distributor device through the inlet opening (8) is redirected by the distributor

10 device and flows outwards into the mould through said at least one outlet opening (14).
2. A distributor device according to claim 1, wherein at least one outlet opening (14) is provided in the peripheral wall (6), the device being constructed and arranged such that in use, molten aluminium flows substantially horizontally outwards

15 through said at least one outlet opening (14).
3. A distributor device according to claim 2, wherein at least one outlet opening (14) is provided in the lower part of the peripheral wall (6), adjacent the base member (4).
4. A distributor device according to claim 3, wherein the upper surface of the base member (4) is inclined towards the or each outlet opening (14).

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5. A distributor device according to any one of the preceding claims, wherein the peripheral wall (6) includes two side wall members (10) and two end wall members (12).
6. A distributor device according to claim 5, wherein at least one outlet opening (14)

25 is provided in each end wall member (12).
7. A distributor device according to claim 5 or claim 6, wherein the separation of the side wall members (10) increases towards the ends thereof.
8. A distributor device according to claim 7, wherein the side wall members (10) are curved.

9. A distributor device according to any one of the preceding claims, wherein the base member (4) includes a raised flow deflector (16).
10. A distributor device according to any one of the preceding claims, wherein the peripheral wall (6) is inclined outwards.
- 5 11. A distributor device according to any one of the preceding claims, including a heating element for pre-heating the device.
12. A distributor device according to any one of the preceding claims, including a support structure (24,26).
- 10 13. A distributor device according to any one of the preceding claims, including a porous element (38) constructed and arranged such that, in use, molten aluminium poured into the distributor device flows through said porous element.
14. A distributor device according to claim 13, in which the porous element (38) includes a substantially bowl-shaped mesh of woven material that fits into and is supported by said receptacle (2), the arrangement being such that molten aluminium poured into the distributor device through the inlet opening (8) flows through the mesh of woven material before exiting through said at least one outlet opening (14).
- 15 15. A distributor device according to claim 14, in which the porous element (38) includes a mesh of coated glass fibres.
- 20 16. A distributor device according to any one of claims 13 to 15, in which the porous element (38) includes a support frame (45) that, in use, engages and is supported by the receptacle (2).
- 25 17. A distributor device for use in aluminium casting, the distributor device (36) including a rigid, substantially bowl-shaped receptacle (2) having an inlet opening at the top and at least one outlet opening (14) towards the base thereof, and an inner liner (38) including a substantially bowl-shaped mesh of woven material that fits into and is supported by said rigid receptacle (2), the arrangement being such that molten aluminium poured into the distributor device through the inlet

opening flows through the mesh of woven material before exiting through the at least one outlet opening (14).

18. A distributor device according to claim 17, in which the rigid receptacle (2) includes a ceramic shell.
- 5 19. A distributor device according to claim 17 or claim 18, in which the base (4) of the rigid receptacle is inclined towards the or each outlet opening (14).
20. A distributor device according to any one of claims 17 to 19, in which the rigid receptacle includes at least one heating element.
21. A distributor device according to any one of claims 17 to 20, in which the inner
10 liner includes a mesh of coated glass.
22. A distributor device according to any one of claims 17 to 21, in which the inner liner includes a support frame (45) that, in use, engages and is supported by the rigid receptacle (2).
23. An aluminium casting installation including a mould (20), a delivery device
15 (28,30) for delivering molten aluminium into the mould and a distributor device (2) according to any one of the preceding claims, the distributor device (2) being mounted below the delivery device (28,30) and above the mould (20), the installation being constructed and arranged such that, in use, molten aluminium is poured from the delivery device into the mould through the distributor device.
- 20 24. An aluminium casting installation according to claim 23, wherein the distributor device (2) is positioned so that, during pouring, it is partially immersed in the liquid metal in the mould (20) with said at least one outlet opening (14) below the surface (22) of the liquid metal.